

Application No. 10/825,736
Docket No. 200309260-1

REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. In the Office Action mailed March 6, 2008, the following actions were taken:

(1) Claims 1-3, 5-7, 9-18, 20-22, and 24-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,958,121 (hereinafter "Lin") in view of U.S. Patent No. 5,624,484 (hereinafter "Takahashi"); and

(2) Claims 4 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin and Takahashi, and further in view of U.S. Patent No. 6,328,413 (hereinafter "Rutland").

It is respectfully submitted that the presently pending claims be reconsidered and allowed. For the Examiner's convenience and reference, Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Claim Rejections - 35 U.S.C. § 103

Rejection over Lin in view of Takahashi

The Examiner has rejected claims 1-3, 5-7, 9-18, 20-22, and 24-30 (including independent claims 1 and 16) under 35 U.S.C. § 103 as being unpatentable over Lin in view of Takahashi. Applicants submit that the rejected claims are patentable over these references, because the Lin and Takahashi references, when combined, do not teach or suggest all of the elements of claims 1 and 16.

The claimed invention is directed toward a system and method for ink-jet imaging. In accordance with embodiments of the claimed invention, this system allows for reduced nozzle clogging due to cross-contamination. Claim 1 sets forth a fluid dispensing system specifically designed for ink-jet printing comprising an ink-jet ink with from 0.1 wt% to 6 wt% of an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer. This claim also set forth a fixer composition with a cationic crashing agent that is reactive with a component of the ink-jet ink. The fluid dispensing system is configured for overprinting or underprinting the fixer composition with respect to the ink-jet ink. Claim 16 sets forth a method for ink-jet imaging including jetting from printing nozzles an ink-jet ink that includes from 0.1 wt% to 6

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wt% of an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer, and jetting from printing nozzles a fixer composition including a cationic crashing agent reactive with a component of the ink-jet ink. The fixer composition is either overprinted or underprinted with respect to the ink-jet ink.

Applicants assert that Lin fails to teach or suggest every element of claims 1 and 16 in the arrangement and amounts required by those claims. The Examiner has asserted that Lin teaches the ink components required by claims 1 and 16. In particular, the Examiner has cited to column 18, lines 24-43; and column 21, lines 11-15 and 46-51 as allegedly teaching the presence of both anionic dyes and anionic dispersing agents in the claimed amounts. However, these passages do not teach or suggest the use of an anionic dye of one weight percent concentration with an anionic dispersing agent with another weight percent concentration as required by independent claims 1 and 16. Rather, Lin discusses anionic dyes separately from stabilizing agents used in different embodiments. See, e.g. col. 11, lines 18-21. In other words, the reference teaches anionic dyes or anionic stabilizing agents (with pigments) as elements of alternate embodiments. Nowhere does the reference refer to an embodiment where an anionic dye is used in an ink, and further a different concentration of an anionic dispersing agent is used in the same ink, as required by the current independent claims 1 and 16. Therefore, Lin fails to teach every element of claims 1 and 16.

The Examiner has combined Lin with Takahashi, where Takahashi is cited to provide an alleged teaching of overprinting and underprinting of a fixer composition. However, Applicants assert that the present claims are also patentable over this combination of references because Takahashi fails to remedy the deficiencies of Lin described above. Specifically, Takahashi does not teach or suggest an ink-jet ink with from 0.1 wt% to 6 wt% of an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer. Rather, like Lin, Takahashi teaches these components as alternatives, with the dispersant being used in conjunction with pigments rather than dyes. In fact, Takahashi supports the Applicants' assertion that one skilled in the art would typically not use dispersants with dyes, but rather would use dispersants with pigments. When dispersing agents are discussed in Takahashi, they are always tied directly to the use of a pigment in the ink and not to the use of an anionic dye as required by the currently pending claims. This can be seen at col. 5, lines 20-25, where Takahashi proposes the use of inks

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"comprising a dye containing an anionic group..., or inks comprising an anionic compound and a pigment". (emphasis added) Elsewhere in Takahashi, the ink is again described as using either an anionic dye or a pigment, and Takahashi goes on to teach that "[i]n the case where the pigment is used as a coloring material, an anionic compound is used in combination." Col. 8, lines 11-15 (emphasis added). See also col. 9, lines 35-37, lines 53-55, and lines 58-60; Column 10, lines 3-5 and lines 54-56; Column 11, lines 4-9 and lines 30-35; as well as the Examples. Nowhere does Takahashi teach the combination of anionic dye colorant and anionic dispersant polymer in an ink-jet ink as recited in claims 1 and 16. Consequently, Takahashi does not remedy the deficiencies of Lin with regard to teaching or suggesting the elements of these claims.

In light of the above, Applicants submit that claims 1 and 16 are patentable over the combination of Lin and Takahashi, as these references fail to teach every element of these claims in the arrangement required by the claims. Instead, both of these references teach combinations or arrangements that, while indicative of the knowledge and expectations of those of ordinary skill in the art, are different from Applicants' claims. The references particularly reflect the knowledge of those skilled in the art that dispersants generally are of no need in inks which utilize dye colorants, while the present claims recite an ink in which an anionic dye colorant and an anionic dispersant reside in combination. As noted in *Schenck v Nortron Corp.*, the expectations and understanding of those in the art are relevant in evaluating obviousness. 713 F.2d 782, 785; 218 USPQ 698, 700 (Fed. Cir. 1983). Applicant submits that in view of the differences between Applicants' claims and the references and understanding of the art, the present invention as a whole would not be obvious to one skilled in the art from the teaching of the references. Therefore claims 1 and 16 are patentable over the combination of Lin and Takahashi, as these references fail to fairly teach or suggest every element of these claims in the arrangement required by the claims. Furthermore, this is also true for all of the claims depending from claims 1 and 16, in that each includes all of the limitations of the claim from which it depends. Additionally, these dependent claims are also patentable for reasons independent of their dependency on claims 1 and 16. Namely, certain dependent claims recite additional limitations that are not taught in combination by the cited references. Therefore, Applicants respectfully submit that claims 1-3, 5-7, 9-18, 20-22, and 24-30 are allowable, and urge the Examiner to withdraw the rejection.

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Rejection over Lin and Takahashi further in view of Rutland

The Examiner has also rejected claims 4 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Lin and Takahashi, and further in view of Rutland. Rutland is cited to remedy the deficiency in claims 4 and 19 of a teaching of ink-jet printing nozzles and fixer printing nozzles configured in a proximity such that, upon jetting, small amounts of fixer composition aerosol jetted from the fixer printing nozzles contact the ink-jet ink printing nozzles, thereby resulting in the ink-jet printing nozzles being susceptible to cross-contamination by the fixer composition. Not only does Rutland not remedy the missing elements of the combination of Takahashi and Lin with respect to the presence of an anion dye and an anionic dispersing agent, Rutland also does not teach a system with all of the claim limitations required by claims 4 and 19. In fact, Rutland more likely teaches away from the claimed arrangement of elements.

Specifically, the Examiner has cited to column 2, line 66 to column 3, line 28 for support of the teaching that the ink-jet printing nozzles and fixer printing nozzles can be close enough together to be susceptible to cross-contamination. However, this discussion in Rutland poses this as being an undesirable and even untenable arrangement. The purpose of the invention taught in Rutland is to minimize "cross-contamination of print cartridges in an inkjet printing system due to aerosol drift by employing a bidirectional spitting scheme coupled with a configuration of the print cartridges." Column 3, lines 34-37. In other words, Rutland teaches a method and/or system for minimizing cross-contamination which involves, amongst other things, configuring the print nozzles or cartridges in such a way as to eliminate or avoid cross-contamination, resulting in a different arrangement that recited in claims 4 and 19. One point of these particular claims (4 and 19) is to point out that unusual or distant spatial relationships of print heads are not required because of the chemistry of the claimed compositions. Therefore, Rutland teaches away from the required elements of claims 4 and 19 when those claims are viewed as a whole. As such, even if the combination of Takahashi and Lin were to teach all of the required elements of claims 1 and 16, (see above) claims 4 and 19 could not be rendered obvious by the addition of Rutland.

In view of the above, Applicants submit that claims 4 and 19 are patentable over the asserted combination of references, and urge that this rejection be withdrawn.

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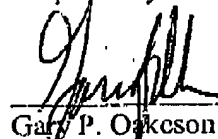
CONCLUSION

In light of the above, Applicant respectfully submits that all of the pending claims are patentable over the cited references. Therefore, Applicant requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Gary Oakeson at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

DATED this 2nd day of May, 2008.

Respectfully submitted,



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